Application No. 10/049,975
Filed: October 1, 2002
Confirmation No.: 6238
TC Art Unit: 1641

AMENDMENTS TO THE CLAIMS

-1. (Currently Amended) A method of assaying substances comprising the steps ~~that includes the following steps~~:

providing a surface that has at least one reaction partner R1 bonded to a surface;

placing in contact with ~~the~~said surface a solution that contains at least the substance being assayed, at least one compound containing a fluorophor and at least one dye that absorbs in the absorption and/or emission range of the fluorophor, wherein a complex forms on reaction partner R1 on ~~the~~said surface and wherein ~~this~~said complex is formed by covalent or non-covalent interactions of ~~contains, besides~~ reaction partner R1, ~~at least~~ the substance being assayed and the compound containing at least one fluorophor~~, and~~;

projecti~~on~~ng a beam of light onto the bottom of the surface, said beam of light being totally reflected on the surface of the phase boundary, thereby forming an evanescence field over said surface; and

exciting the fluorophor bonded to ~~the~~said surface by the evanescence field of a light source and measuring the fluorescence produced.

2. (Currently Amended) The method according to Claim 1, wherein the substance being assayed, ~~as reaction partner R1,~~ bonds to reaction partner ~~R2~~R1 on ~~the~~said surface as reaction partner R2.

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3. (Currently Amended) The method according to Claim 2, wherein the reaction partner R1 bonded to ~~the~~said surface is an antigen or an antibody.

4. (Currently Amended) The method according to Claim 1, wherein a reaction partner R2 contains the substance being assayed and bonds to reaction partner R1 on ~~the~~said surface along with said substance being assayed.

5. (Previously Presented) The method according to Claim 1, wherein another compound, which contains a bonding site for the substance being assayed and a reaction partner R2, bonds to reaction partner R1 on the surface.

6. (Previously Presented) The method according to Claim 5, wherein reaction partner R1 includes avidin or streptavidin and reaction partner R2 includes biotin and a binding site for the substance being assayed.

7-26. (Cancelled)

27. (Currently Amended) The method according to claim 1, wherein the substance being assayed includes a biologically active substance, which is selected from the group consisting of hormones, proteins, viruses, bacteria, pharmaceuticals and toxins.

28. (Currently Amended) The method according to claim 1, wherein the substance being assayed ~~includes~~is a protein~~, preferably an antigen or an antibody~~.

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29. (Currently Amended) The method according to claim 1, wherein the compound containing a fluorophor ~~has a fluorescing compound and~~ further contains a binding site for the substance being assayed.

30. (Currently Amended) The method according to claim 1, wherein fluorescing proteins and/or low-molecular weight fluorescing chemical compounds are used as the fluorophor.

31. (Currently Amended) The method according to claim 30, wherein phycobili proteins~~, such as allophycocyanine (APC), Cryptofluor Crimson or Cryptofluor Red~~ are used as fluorescing proteins.

32. (Currently Amended) The method according to claim 31, wherein 5-N-N'-diethyltetramethylindodicarbocyanine (Cy5) or dipyrromethene boron difluoride ~~BODIFY~~ (BODIPY) are used as low-molecular weight fluorescing compounds.

33. (Previously Presented) The method according to claim 1, wherein at least one fluorophor that absorbs in a wavelength range from 600 to 700 nm is used.

34. (Previously Presented) The method according to claim 1, wherein at least one phosphorescing compound is used as the fluorophor.

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35. (Previously Presented) The method according to claim 1, wherein a mixture of dyes that absorb in the absorption and/or emission range of the fluorophor is used.

36. (Currently Amended) The method according to claim 1, wherein at least one dye that absorbs in a wavelength range ~~form~~from 600 to 700 nm is used.

37. (Currently Amended) The method according to claim 36, wherein disodium alpha-(4-(N-ethyl-3-sulfonatobenzylamino) phenyl)-alpha-(4-N-ethyl-3-sulfonatobenzylamino, cyclohexa-2,5-dienylidene) toluene-2-sulfonate (Brilliant Blue FCF) in a concentration of at least 0.001 mM is used as the at least one dye.

38-44. (Cancelled)

45. (Currently Amended) The ~~use of the~~ method according to claim 1, further comprising the step of determining ~~to determine~~ reaction kinetics of immunologic reactions.

46. (Currently Amended) The ~~use of the~~ method according to claim 1, further comprisieng the steps of carrying out an assay selecteed from the group consisting of ~~in~~ medical or veterinary medical diagnostics, food analysis, environmental analysis or analysis of fermentation processes.

47. (Currently Amended) The method according to claim 27, wherein:

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the substance being assayed ~~includes~~is a protein~~, preferably an antigen or an antibody~~;

the compound containing fluorophor ~~has a fluorescing compound and~~ further contains a binding site for the substance being assayed;

fluorescing proteins and/or low-molecular weight fluorescing chemical compounds are used as the fluorophor;

phycobili proteins~~, such as allophycocyanine (APC), Cryptofluor Crimson or Cryptofluor Red~~ are used as fluorescing proteins;

~~Cy5 or BODIFY are used as low molecular fluorescing compounds;~~

~~fluorophor that absorbs in a wavelength range from 600 to 700 nm is used;~~

~~at least one phosphorescing compound is used as the fluorophor;~~

a mixture of dyes that absorb in the absorption and/or emission range of the fluorophor is used; and

at least one dye that absorbs in a wavelength range ~~form~~from 600 to 700 nm is used~~;~~

~~Brilliant Blue FCF in a concentration of at least 0.001 mM is used as the at least one dye~~.

48-51. (Cancelled)

52. (Currently Amended) The ~~use of the~~ method according to claim 47, further comprising the steps of determining ~~to determine~~ reaction kinetics of immunologic reactions.

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53. (Cancelled)

54. (Currently Amended) The ~~use of the~~ method according to claim 47, further comprising the steps of carrying out an assay selected from the group consisting of ~~in~~ medical or veterinary medical diagnostics, food analysis, environmental analysis or analysis of fermentation processes.

55. (Cancelled)

56. (New) The method according to claim 28, wherein the protein is an antigen or an antibody.

57. (New) The method according to claim 31, wherein the phycobili proteins are selected from the group consisting of allophycocyanine (APC) and low-molecular weight cryptomonad-derived phycobili proteins.

58. (New) The method according to claim 47, wherein the protein is an antigen or an antibody.

59. (New) The method according to claim 47, wherein the phycobili proteins are selected from the group consisting of allophycocyanine (APC) and low-molecular weight cryptomonad-derived phycobili proteins.

60. (New) The method according to claim 47, wherein Cy5 or BODIPY are used as low-molecular weight fluorescing compounds.

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61. (New) The method according to claim 47, wherein a fluorophor that absorbs in a wavelength range from 600 to 700 nm is used.

62. (New) The method according to claim 47, wherein at least one phosphorescing compound is used as the fluorophor.

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